AMENDMENTS TO THE CLAIMS

1. (Currently amended) A high-throughput method for producing a plurality of monoclonal antibodies, each of which binds to a different candidate antigen, said method comprising the steps of:

a) introducing a plurality of purified candidate antigens into an animal or animals wherein the purified candidate antigens are selected from the group consisting of purified proteinaceous substances, purified non-proteinaceous substances, purified proteinaceous substances linked to a carrier, purified non-proteinaceous substances linked to a carrier, and fragments thereof;

b) recovering antibody-producing cells from said animal or animals and rendering these cells into ~~a~~ single cell ~~suspension~~suspensions;

c) generating immortalized cell lines from said single cell ~~suspension~~suspensions;

d) screening the supernatant of said immortalized cell lines against a protein chip or protein chips on which the purified candidate antigens are displayed; and

(e) selecting monoclonal antibodies that bind to said candidate antigens.

2. (Previously presented) The method of claim 1, wherein said animal or animals is a mouse, a rat, a guinea pig or a rabbit.

3. (Cancelled)

4. (Previously presented) The method of claim 1, wherein between two and fifty different purified candidate antigens are introduced into each animal.

5. (Previously presented) The method of claim 4, wherein between 0.001 and 1000 micrograms of each antigen is introduced into each animal.

6. (Previously presented) The method of claim 1, comprising the additional step of supplying the animal or animals with a booster dose of some or all of the antigens which were introduced into the animal or animals prior to the removal of antibody-producing cells.

7. (Previously presented) The method of claim 1, wherein the antibody-producing cells are B cells.

8. (Previously presented) The method of claim 1, wherein the antibody-producing cells are recovered by removal of spleen tissue, lymph nodes or bone marrow of the animal or animals.

9. (Previously presented) The method of claim 1, wherein the immortalized cell lines are hybridoma cell lines produced by somatic fusion of the cells in the single cell suspension to myeloma cells.

10. (Previously presented) The method of claim 1, wherein said protein chip or protein chips is a plain-glass slide, a 3D gel pad chip, a microwell chip or a cell chip.

11. (Previously presented) The method of claim 1, wherein the step of detecting the monoclonal antibodies bound to the antigens further comprises isotyping the monoclonal antibodies.

12. (Previously presented) The method of claim 11, wherein said step of detecting and isotyping the monoclonal antibodies comprises adding isotype specific anti-immunoglobulin antibodies to said protein chip or protein chips, wherein each anti-immunoglobulin antibody having a different isotype specificity has a different label, and detecting the presence of said labels.

13. (Previously presented) The method of claim 1, further comprising assessing the specificity with which each isolated monoclonal antibody binds to an antigen using a protein chip or protein chips comprising said antigen.

14-15. (Cancelled)

16. (Withdrawn) A method for producing an immortalized cell line that produces a monoclonal antibody of interest, said method comprising the steps of:

a) introducing at least one candidate antigen into an animal;

b) recovering antibody-producing cells from said animal and rendering these cells into a single cell suspension;

c) generating an immortalized cell line from said single cell suspension;

d) screening the supernatant of said immortalized cell line against a protein chip on which the candidate antigen is displayed; and

e) selecting as said immortalized cell line, that which produces a supernatant containing an antibody that binds to said candidate antigen.

17. (Withdrawn) An immortalized cell line isolated by the method of claim 16.

18-19. (Cancelled)

20. (Withdrawn) A monoclonal antibody isolated by the method of claim 1.

21. (Withdrawn) An antibody according to claim 20 which is an anti-idiotype antibody.

22. (Withdrawn) An antibody according to claim 21 which is an anti-anti-idiotype antibody.

23. (Withdrawn) An immortalized cell line producing a monoclonal antibody of claim 20.

24. (Withdrawn) An immortalized cell line according to claim 23 which is a hybridoma cell line.

25. (Withdrawn) A bank of antibodies according to claim 20.

26. (Withdrawn) A bank of immortalized cell lines according to claim 15.

27. (Currently amended) A method of identifying a plurality of monoclonal antibodies, each of which binds to a different candidate antigen, said method comprising the steps of:

a) screening the supernatant of immortalized cell lines against one or more protein chips on which the purified candidate antigens selected from the group consisting of purified proteinaceous substances, purified non-proteinaceous substances, purified proteinaceous substances linked to a carrier, purified non-proteinaceous substances linked to a carrier, and fragments thereof are displayed; and

b) selecting monoclonal antibodies that bind to said candidate antigens, said method being characterized in that said immortalized cell lines are generated from ~~a~~ single cell ~~suspension~~suspensions that produce antibodies against a plurality of antigens.

28. (Previously presented) The method of claim 1, wherein the purified proteinaceous substances are selected from the group consisting of glycoproteins, lipoproteins, nucleoproteins and peptides.

29. (Previously presented) The method of claim 1, wherein the non-proteinaceous substances are selected from the group consisting of polysaccharides, liposaccharides, and nucleic acids.

30. (Previously presented) The method of claim 27, wherein the purified proteinaceous substances are selected from the group consisting of glycoproteins, lipoproteins, nucleoproteins and peptides.

31. (Previously presented) The method of claim 27, wherein the non-proteinaceous substances are selected from the group consisting of polysaccharides, liposaccharides, and nucleic acids.